ok to enter LX 12/6/05

## AMENDMENTS TO THE CLAIMS

48. (Currently Amended) A multi-cavity thin-film interference filter comprising a sequence of alternating layers of amorphous silicon and a dielectric material deposited one on top of the other to form a tunable bandpass filter, said dielectric material being selected from the group consisting of silicon dioxide and silicon nitride, said sequence of alternating layers forming coupled Fabry-Perot cavity structures including at least a first Fabry-Perot cavity structure and a second Fabry-Perot cavity structure, each of said first and second Fabry-Perot cavity structures comprising:

a first multi-layer thin film interference structure forming a first mirror;

a thin-film spacer layer deposited on a top surface of the first multi-layer thin-film interference structure, said thin-film spacer layer made of said amorphous silicon; ~~and~~

a second multi-layer thin film interference structure deposited on a top surface of the thin-film spacer layer and forming a second mirror; and

a layer of electrically conductive material to which, during use, power is supplied by an external source to change the temperature of the multi-cavity thin film interference filter and thereby shift the passband of the multi-cavity thin film interference filter.

49. (Canceled)

50. (Canceled).

51. (Currently Amended) The multi-cavity thin-film interference filter of claim 48 further comprising a heater element that is arranged to heat said at least one layer made of said semiconductor material so as to vary in a controllable way the filter characteristics of the optical filter.

Claims 52-59 (Canceled)

60. (Previously Presented) The multi-cavity thin film interference filter of claim 48, wherein the dielectric material is silicon nitride.

61. (Canceled)